

SOLVENT REFINING OF COAL - A PROGRESS REPORT. W. B. Harrison and E. L. Huffman,  
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In collaboration with other investor-owned electric utilities which are members of the Edison Electric Institute, Southern Services has constructed and is now operating a 6 ton per day pilot plant for further developing the solvent refining process for coal. The principal purpose is to produce a "clean" utility fuel from coal such that abundant domestic reserves can be utilized in a manner compatible with environmental regulations. The process first involves dissolving coal in a coal-derived solvent (anthracene oil) under elevated temperature and pressure in a hydrogen atmosphere. The undissolved matter, containing pyritic sulfur, is then separated from the coal solution, and the organic sulfur is partly removed as hydrogen sulfide. Solvent is recovered from the remaining coal solution and recycled, leaving a fuel product which can be used directly as a hot liquid, or cooled and handled as a solid. This project is dedicated to studies for improving the solid separation and the product solidification steps of the process, and operating experience gained is expected to be useful to the larger pilot plant (50 tons per day) being constructed by Pittsburg and Midway Coal Mining Company under sponsorship of the Office of Coal Research, featuring the same basic process.